

# Timely Aids for Car Owners

## Seven Ingenious Ideas for Solving Common Problems

**T**WO blocks of wood, some short pieces of chain, and a few eyebolts will supply you with material to build yourself a sure cure for getting stuck in mudholes. As shown in Fig. 1, the wood blocks are cut as large as possible and yet clear the mud guards, and then the eyebolts are fitted at each corner. The chains can be fitted at one end with snap hooks. At each revolution of the rear wheels, the back of the car is raised up about eight inches and moved along about two feet, finally getting the car clear of the mud.

**O**N PRACTICALLY all cars made today, the ignition system operates on the closed circuit principle. This means that the contact points that are used to break the current in the primary circuit of the spark coil are closed except during a very brief interval following the break which causes the spark. And as the primary circuit of the standard type of spark coil has a relatively low resistance, it is necessary to put a special resistance coil in circuit with it to limit the flow of current. This special resistance coil is ordinarily located on the spark coil as shown in Fig. 2.

When your battery unexpectedly goes dead—so dead that you cannot even start the car by hand cranking, you will find it possible to get the motor going by short-circuiting this resistance and thus permitting the greatest possible flow of current through the coil. A start can always be made in this way unless your battery is absolutely dead so that there is not the slightest amount of current left in it—a condition which is rare.

The method of short-circuiting this resistance coil will depend on the construction of the particular type of coil in your car, but by a careful examination you will be able to see how to connect a short piece of wire so that the current can get around the resistance. The short-circuiting wire should be removed as soon as the motor has been started, because if it is left on for any length of time the extra current may seriously damage the coil.

**E**XCEPT in the case of the latest model Ford car, the gas tank on all Fords is so located that when less than two gallons remain in the tank the level is so low that no gas is supplied to the carburetor on very steep hills. An ordinary tire valve fitted in the gas tank cap with a wooden plug stuck in the air inlet hole as shown in Fig. 4, will allow you to pump enough air pressure into the

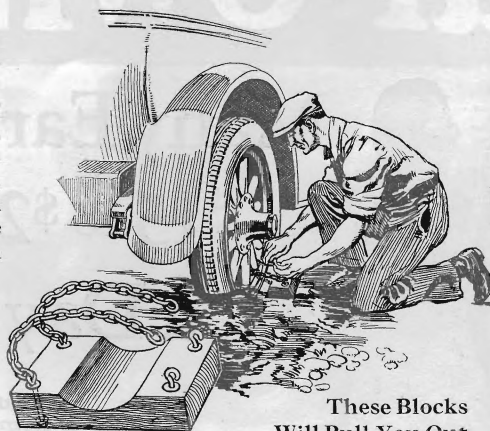


Fig. 1. Attaching wooden blocks with chains to rear wheels to aid in getting car out of a mudhole

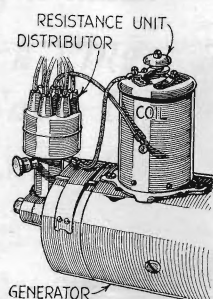


Fig. 2. How to start a car by a short circuit when a battery goes dead

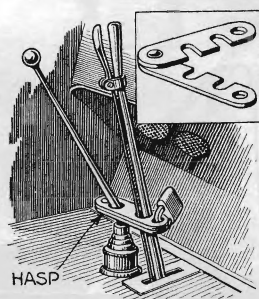


Fig. 3. Lock for gear shift and emergency brake. It is made of two pieces of flat steel

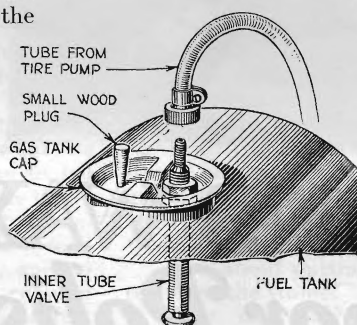


Fig. 4. Novel scheme keeps gas flowing to Ford carburetor on a steep hill

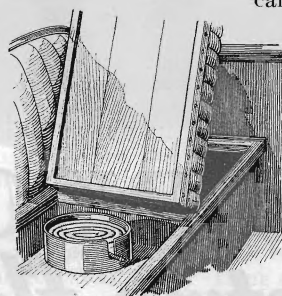


Fig. 5. A cake tin with slot for valve makes good tube container

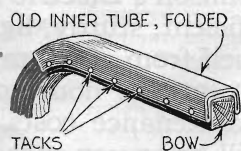


Fig. 6. Inner tube used to prevent bow cutting through top

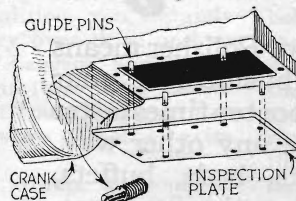


Fig. 7. This guide pin makes it easy to remove oil pan on Ford

tank to get you over the top of the hill. Be careful not to pump too much air into the tank, as it is not built to stand high pressure, and it is apt to spring a leak that will cause serious trouble.

**T**WO pieces of flat steel,  $\frac{3}{16}$  in. thick and  $1\frac{1}{2}$  in. wide, can be filed, as shown in Fig. 3, to form a satisfactory lock for the auto. It will have to be made to fit the gear shift and brake lever on your own car, of course. It can be locked with a small padlock.

**E**VERY motorist should carry along at least one spare tube when he is going on an extended trip, but there is no advantage in carrying a spare tube if it is simply thrown in the tool box and left there until needed. The constant chafing against the other tools will be sure to ruin it. The simplest possible container is a cake tin with a slot cut in the rim for the valve stem, as illustrated in Fig. 5. It should be nailed securely to the bottom of the tool compartment so that it will stay in one place and not turn over and let the tube drop out.

**I**N THE higher-priced cars, great care is taken with the top construction to pad the bows so that they will not wear through the top material, but this point is often neglected on low-priced cars. You can increase the life of the top on your car by padding the bows with old inner tubes folded and tacked in place, as shown in Fig. 6. Put in the tacks about an inch apart and be very careful to get the section of inner tube perfectly smooth, as even one wrinkle will cut through the top material in a short time.

**T**HE oil pan on the Ford is bolted to a steel ring that is placed inside the lower section of the crankcase and, as this ring is not fastened in place except by the bolts, it is rather a difficult matter to start the first two bolts, because the ring slips out of position so easily. Trouble along this line can be eliminated easily by making up a few studs consisting of bolts of the proper size with heads cut off and slotted for a screw driver. As shown in Fig. 7, the studs are screwed into the inside ring through the holes in the crankcase before an attempt is made to fit the oil pan. Then, when the oil pan is slipped into place, the studs hold the inner ring in line while the remaining bolts are screwed home. After that the special studs can be replaced with the regular bolts.

### Ten Dollars for an Idea!

**H**ARRY LINCE, of Dearborn, Mich., wins the \$10 prize this month for the wooden tire blocks, Fig. 1. Each month POPULAR SCIENCE MONTHLY awards \$10 besides space rates for the best idea for motorists. Other published contributions will be paid for at usual rates.